Association Between Mobile Phone Use for Chronic Disease Follow-Up and Anxiety and Depression Among Elderly with Chronic Diseases in Guangxi, China: a cross-sectional study

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Introduction

The adoption of mobile phone technology for chronic disease management has shown promise in enhancing health outcomes among the elderly. However, its impact on mental health, particularly anxiety and depression, remains underexplored.

This study investigates the association between mobile phone use for chronic disease follow-up and the prevalence of anxiety and depression among elderly individuals with chronic conditions in Guangxi, China, with a focus on comparing those living alone versus those living with family.

Methods

- We conducted a cross-sectional analysis using data from 3,042 elderly participants aged 60 years and older with diagnosed chronic diseases, drawn from the 2023 National Health Service Survey.

- The primary exposure variable was the use of mobile phones for chronic disease follow-up, including teleconsultations, medication reminders, and health monitoring. Anxiety and depression were assessed using validated scales.

- Multivariable logistic regression models were used to estimate adjusted odds ratios (OR) and 95% confidence intervals (CI) for the association between mobile phone use and anxiety and depression, with stratification by living situation (living alone vs. living with family). The analysis controlled for potential confounders such as age, gender, and socioeconomic status.

Results

The chart shows that 70% of elderly participants used mobile phones for chronic disease follow-up, with lower adoption among those living alone (60%) compared to those living with family (75%). This highlights a disparity in mobile phone use that may require targeted support for those living alone.
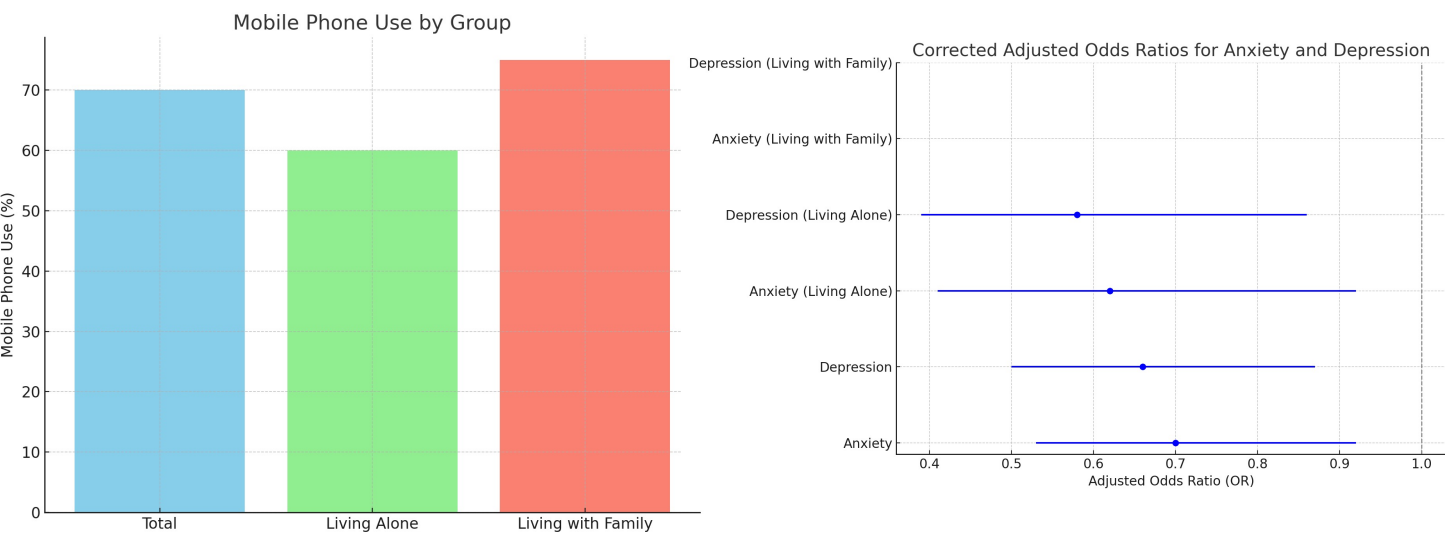
The study found that elderly individuals who used mobile phones for chronic disease follow-up had significantly lower odds of experiencing anxiety (adj. OR = 0.70, 95% CI: 0.53–0.92, p = 0.011) and depression (adj. OR = 0.66, 95% CI: 0.50–0.87, p = 0.003) compared to those who did not use mobile phones for these purposes. This protective effect was more pronounced among those living alone (anxiety: adj. OR = 0.62, 95% CI: 0.41–0.92, p = 0.018; depression: adj. OR = 0.58, 95% CI: 0.39–0.86, p = 0.006).

Conclusion

- The use of mobile phones for chronic disease follow-up is associated with reduced risks of anxiety and depression among elderly individuals with chronic diseases, particularly among those living alone.

- These findings underscore the potential of mobile health interventions to improve mental health outcomes in socially isolated elderly populations.